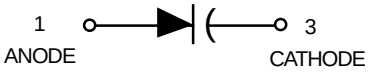
ETL
SEMICONDUCTOR

Silicon Tuning Diode

MMBV809LT1

This device is designed for 900 MHz frequency control and tuning applications. It provides solid–state reliability in replacement of mechanical tuning methods.

- Controlled and Uniform Tuning Ratio
- Available in Surface Mount Package
- Available in 8 mm Tape and Reel



CASE 318–08, STYLE 8
SOT– 23 (TO–236AB)

MAXIMUM RATINGS(EACH DIODE)

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	20	Vdc
Forward Current	I_F	20	mAdc
Device Dissipation(1) @T_A = 25°C	P_D	225	mW
Derate above 25°C		1.8	mW/°C
Junction Temperature	T_J	+125	°C
Storage Temperature Range	T_{stg}	–55 to +150	°C

DEVICE MARKING

MMBV809LT1=5K

ELECTRICAL CHARACTERISTICS(T_A=25°C unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
Reverse Breakdown Voltage (I_R=10μAdc)	$V_{(BR)R}$	20	—	Vdc
Reverse Voltage Leakage Current (V_R=15Vdc)	I_R	—	50	nAdc

Device Type	C_TDiode Capacitance V_R=2.0Vdc,f=1.0MHz pF			Q,Figure of Merit V_R=3.0Vdc f=500MHz	C_R,Capacitance Ratio C_2/C_8 f=1.0MHz(2)	
	Min	Typ	Max	Typ	Min	Max
MMBV809LT1	4.5	5.3	6.1	75	1.8	2.6

1. FR-5 Board 1.0 x 0.75 x 0.62 in.
2. C_R is the ratio of C_t measured at 2.0 Vdc divided by C_t measured at 8.0 vdc

MMBV809LT1

TYPICAL CHARACTERISTICS

Figure 1. Diode Capacitance

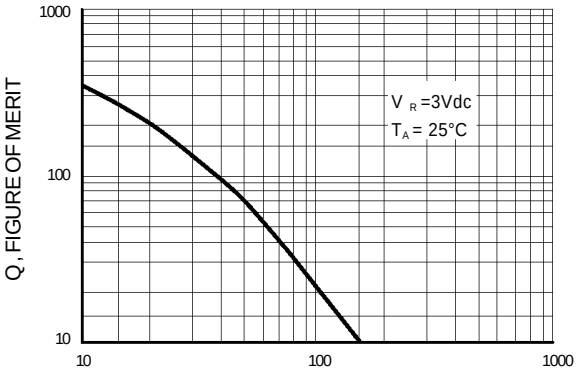


Figure 2. Figure of Merit

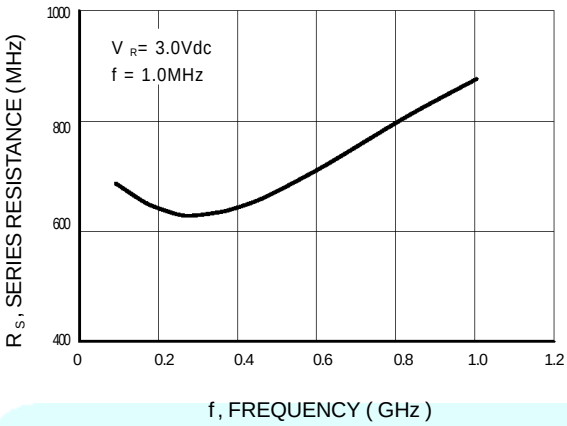


Figure 3. Series Resistance

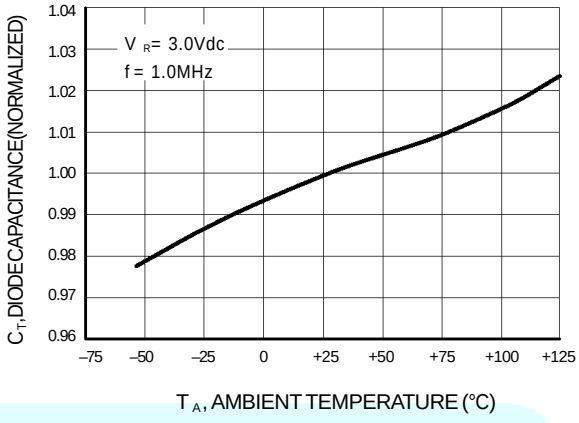


Figure 4. Diode Capacitance